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SATISFACTION OF PATIENTS WITH ARTHROSIS FROM MULTIDISCIPLINARY COOPERATION

Gergana Nenova[1], Paraskeva Mancheva[1], Todorka Kostadinova[2]
1) Training and research sector of Rehabilitation, Medical Collåge - Varna, Medical University of Varna, Bulgaria.
2) Department of Health Economics and Management, Faculty of Public Health, Medical University of Varna, Bulgaria.

ABSTRACT

INTRODUCTION: The research of patient satisfaction with arthrosis from multidisciplinary cooperation is related to clarifying the position and the role of the physiotherapist in public health and in the development of integrated care.

AIM OF THE STUDY: To investigate the satisfaction of patients with arthrosis from multidisciplinary cooperation.

MATERIAL AND METHODS: In this research study participated 30 patients of the Department of Orthopedics and Traumatology of University Hospital "St. Marina "EAD - Varna for the period 2012-2016 of which 13 were men and 17 women. A feedback from these patients was sought based on the 5-point Likert scale regarding their satisfaction after the completion of the work of the multidisciplinary task team that provides integrated care at home. The questionnaire includes 12 questions, grouped in the following areas: awareness, attitude / communication, time, physical activity, professionalism and benefit / effectiveness. The data were compared with the results from a study of the satisfaction of a control group of 30 patients who were treated in the same ward, but chose to continue their rehabilitation with NHIF.

RESULTS: The respondents from the test group are highly satisfied in the "awareness" area (respectively 4.80 and 4.90). They say that they have more freedom in daily activities after the procedure conducted by physiotherapist (4.93) and would seek the same physiotherapist if they need rehabilitation in the future. Patients appreciate the quality behavior/approach and communication skills displayed by the physiotherapist during the rehabilitation process (5.00), which enables them to better understand their illness (4.93). The respondents from the test group felt much better after each procedure performed by the physiotherapist (5.00) and would recommend him/her to other patients who have the same need (5.00). The satisfaction from the work of the physiotherapist is appreciated by patients extremely high, but only within the model of the multidisciplinary team providing integrated care, in contrast with the very low levels of satisfaction with the quality of rehabilitation provided by the NHIF (control group - 2:43 to issue "8" and 2.40 for question "10").

CONCLUSIONS: the leading role of the physiotherapist is definitely essential for the patient in the model of the integrated care provided by the multidisciplinary task team at home. The health problem is solved by a patient-centered approach in an environment that is familiar and close to him with almost identical costs in terms of money, time, emotions, etc. in comparison with the costs provided by NHIF.

Keywords*:* integrated care, multidisciplinary team, physiotherapy

Providing affordable and high quality medical services for long-term care of the chronically ill, the elderly people and people with disabilities is one of the effective tools to improve their quality of life and for their full inclusion in society. Providing real access to them and creating new, integrated cross-sectoral services (with an emphasis on the unity between health and social care), according to the individual needs of the target groups, is necessary. In this sense, the importance of staff providing health services in the field of rehabilitation and physiotherapy within the multidisciplinary team (MDE) providing integrated care (IC) is more than obvious [1, 2, 3, 4, 5]. The analysis of the situation in Bulgaria shows a lack of uniformity in the formation of professional competence of the medical professionals who practice healing through movement.

The need for leadership (albeit informal) of the physiotherapist in MDE in the preoperative and postoperative period of the disease's development, determines his/hers professional competence, and also implies a certain autonomy to his/hers practical work in the context of international experience. A similar legal regulation of the profession "Kinesitherapist" would help to overcome the opposition of doctors in physical medicine for the effective functioning of the both types of specialists in an efficient MDE providing IC. Timely and adequate rehabilitation provided by the MDE that are held in a hospital, outpatient conditions and home will help to overcome the barriers faced by patients with disabilities in our country [6, 7, 8]. The expected results are associated with reducing the financial costs of health and social systems in our country.

MATERIAL AND METHODS:

It is examined our own clinical experience with 30 patients of the Department of Orthopedics and Traumatology of University Hospital "St. Marina "EAD,. Varna for the period 2012-2016 of which 13 were men and 17 women. The survey was conducted at the home of patients in the postoperative period and under the conditions of completed rehabilitation. The study focuses on the "patient-physiothera-

pist" link, as it is fundamental in the phase of rehabilitation. The interaction between the physiotherapist and the patient is carried out at their first meeting (on arrival in the Department of Orthopedics and Traumatology of University Hospital "St. Marina" EAD - Varna) and was continued at home. The questionnaire includes 12 questions, grouped as follows: Questions 1 and 2 in the "awareness" segment, questions 3 and 5 in the area "attitude / communication", questions 4 and 7 - "time", questions 6 and 8 - "physical activity", questions 10 and 11 - "professionalism" and questions 9 and 12 - "benefit / effectiveness." The data were compared with the results from a study of the satisfaction of a control group of 30 patients who were treated in the same ward, but chose to continue their rehabilitation NHIF. For the processing of the results were used the following statistical methods: verification of the questions about reliability by factor α -Cronbah (0938); statistical test to test the difference between the average responses by F-test of Fisher using analysis of variance (ANOVA); correlation between specific issues with inter-item correlation matrix; descriptive analysis on specific issues (collectively, test and control group) and individual responses (for all issues).

The **object** of the study: patient satisfaction from the integrated care at home provided by a multidisciplinary team.

RESULTS AND DISCUSSION:

The first stage of processing the data from the study is verifying the questions' credibility (reliability), whether they have good selective and discriminatory options, whether individual questions "explain" one another, whether the questionnaire enables clearly enough to distinguish the shades of the opinions. This inspection was carried out according to the most common practice - a factor α - Cronbach (Table 1) [9].

Table 1. Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,938	0,945	12

The coefficient α -Cronbach is 0.938, which indicates a high degree of agreement on the individual issues [10].The questionnaire has good cognitive and selective possibility.

The second stage of processing the survey data provides evidence of statistically significant differences in the responses from the test and control groups:

Table 2. F-test (ANOVA)

Items		Sum of Squares	df	Mean Square	F	Sig.
I was aware of the rehabilitation's nature procedures prior to their implementation	Between Groups	173.400	1	173.400	838.100	.000
	Within Groups	12.000	58	.207		
	Total	185.400	59			
The physiotherapist answered all of my questions regarding my condition	Between Groups	160.067	1	160.067	467.309	.000
	Within Groups	19.867	58	.343		
	Total	179.933	59			
I understand my condition much better after visiting a specialist in physical therapy	Between Groups	183.750	1	183.750	805.353	.000
	Within Groups	13.233	58	.228		
	Total	196.983	59			
I don't think that the physiotherapist worked enough time with me	Between Groups	150.417	1	150.417	367.076	.000
	Within Groups	23.767	58	.410		
	Total	174.183	59			
The physiotherapist cared about other related pain that I have	Between Groups	141.067	1	141.067	357.808	.000
	Within Groups	22.867	58	.394		
	Total	163.933	59			
I feel better after each procedure performed by a physiotherapist	Between Groups	106.667	1	106.667	488.421	.000
	Within Groups	12.667	58	.218		
	Total	119.333	59			
The physiotherapist worked mostly with me	Between Groups	93.750	1	93.750	191.237	.000
	Within Groups	28.433	58	.490		
	Total	122.183	59			

I have more freedom in my daily activities after the completion of the rehabilitation	Between Groups	93.750	1	93.750	356.947	.000
	Within Groups	15.233	58	.263		
	Total	108.983	59			
I invested a lot of my own financial resources for the execution of the procedures	Between Groups	21.600	1	21.600	36.069	.000
	Within Groups	34.733	58	.599		
	Total	56.333	59			
If I'm in need, I would contact the same physiotherapist	Between Groups	101.400	1	101.400	639.261	.000
	Within Groups	9.200	58	.159		
	Total	110.600	59			
I would recommend this physiotherapist to other patients	Between Groups	109.350	1	109.350	443.517	.000
	Within Groups	14.300	58	.247		
	Total	123.650	59			
Today, after weighing the pros and cons, I feel satisfied with the rehabilitation services provided by the physiotherapist	Between Groups	163.350	1	163.350	581.245	.000
	Within Groups	16.300	58	.281		
	Total	179.650	59			

The results presented in Table 2 show that all the values are smaller than 0.05, which means that the test group is satisfied on greater scale compared to the control group.

The third stage of processing the survey data includes searching for a correlation between issues (inter-item correlation matrix), which is presented in Table 3:

Table 3. inter-item correlation matrix

No	1	2	3	4	5	6	7	8	9	10	11	12
1	1,000	,930	,968	-,883	,905	,908	,899	,893	,646	,934	,899	,931
2	,930	1,000	,967	-,866	,908	,951	,859	,921	,520	,954	,930	,936
3	,968	,967	1,000	-,899	,901	,931	,872	,918	,552	,937	,922	,931
4	-,883	-,866	-,899	1,000	-,794	-,862	-,713	-,814	-,503	-,871	-,849	-,839
5	,905	,908	,901	-,794	1,000	,939	,922	,927	,680	,918	,939	,957
6	,908	,951	,931	-,862	,939	1,000	,889	,918	,577	,931	,938	,943
7	,899	,859	,872	-,713	,922	,889	1,000	,881	,745	,861	,886	,898
8	,893	,921	,918	-,814	,927	,918	,881	1,000	,627	,932	,951	,934
9	,646	,520	,552	-,503	,680	,577	,745	,627	1,000	,570	,593	,631
10	,934	,954	,937	-,871	,918	,931	,861	,932	,570	1,000	,955	,939
11	,899	,930	,922	-,849	,939	,938	,886	,951	,593	,955	1,000	,935
12	,931	,936	,931	-,839	,957	,943	,898	,934	,631	,939	,935	1,000

The correlation coefficients between question "1" and question "5" is 0.905, indicating that there is a strong connection between the two questions and they can be included in one field - "awareness." The questions "2" and "3" are with a correlation coefficient close to unity (0.967) and examine the satisfaction with physiotherapist's communication skills thus they compile the "attitude / communication" field. Question "4" is negatively correlated with the question "7" and other questions, as is a control question (specific type of functional survey questions) aimed at checking the reliability of data (truthfulness of the answers). This gives us a reason to be grouped in one field with each of the remaining 11 questions, but for the purpose of the dissertation we include it in the "time" segment alongside question "7" (0713). Questions "6" and "11" have a very high correlation coefficient - 0.938 and are included in "professionalism". The questions "8" and "10" are with a correlation coefficient of 0.932 and form the "physical activity" field. Questions "9" and "12" are correlated with a coefficient of 0.631 and thus they are included in the "benefits / performance" field.

All this allows us to spread the 12 questions in the following areas presented in Table 4:

Table 4. Distribution of the 12 questions from the questionnaire about patient satisfaction in 5 fields

Field	**Question**			
awareness	question 1	I was aware of the rehabilitation's nature procedures prior to their execution and the possible risks	question 5	The physiotherapist cared about other related pain that I have
attitude/ communicability	question 2	The physiotherapist answered all of my questions regarding my condition	question 3	I understand my condition much better after visiting a specialist in physical therapy
time	question 4	I don't think that the physiotherapist worked enough time with me	question 7	The physiotherapist worked mostly with me
professionalism	question 6	I feel better after each procedure performed by a physiotherapist	question 11	I would recommend this physiotherapist to other patients
physical activity	question 8	I have more freedom in my daily activities after the completion of the rehabilitation	question 10	If I'm in need, I would contact the same physiotherapist
benefit / effectiveness	question 9	I invested a lot of my own financial resources for the execution of the procedures	question 12	Today, after weighing the pros and cons, I feel satisfied with the rehabilitation services provided by the physiotherapist

The fourth stage of the data processing includes descriptive analysis of questions (items) and answers (scale). We present results on specific issues (overall results, test and control group) and individual responses (for all issues) of Table 5:

A comparison of the average (between control and test group) found that the test group has much higher values, i.e. Patients give much appreciation for satisfaction held by rehabilitation at home. Respondents from the test group showed higher average levels of satisfaction matters "awareness" (respectively 4.80 and 4.90). Therefore, physiotherapist as a member of MDE providing IG briefed each every patient the nature of the procedures before their implementation, having first been interested and accompanying diseases of the patient. In fact, the expanded physiotherapeutic history is essential in preparing the rehabilitation program, as it allows, unless the testimony be identified and contraindications on dosage, repeatability and duration of load in the patient. Awareness of patient and physiotherapist to back bilateral ongoing continuous connection that helps prevent potential risks of inappropriate with the patient's treatment program. In this sense, respect for the rule of awareness is connected on one side with the basic principle of medicine, enshrined in the Hippocratic Oath "above all no harm" (lat. - "Rrimum non nocere) and implements the concept of patient-centered approach in the work of MDE providing IG - on the other. The control group showed 1.40 and 1.83 as the average assessment of patient satisfaction, agreed to hold their rehabilitation by NHIF. These results are probably due to lack of implementing patient-oriented approach, which is reflected satisfaction on receiving and giving information about which patients perceive as personalize their treatment.

Respondents with the highest level of satisfaction with the relationship and communication skills physiotherapist during the rehabilitation process. They say that physiotherapist answered all questions arising and put (5.00), which has enabled a better understanding of the disease and its course (4.93). The process of communication between the physiotherapist and his patient has formed a certain idea and proper patient about his health problem. This leads to a reduction of fear, anxiety, increases confidence and retain hope for a favorable outcome. In this sense, communication has stepped mobilizing and nurturing effect on the patient, which could affect its favorable lifestyle and would shift his behavior to the proper implementation of prescription and appointments. In the control group the level of satisfaction in this area is respectively 1.73 and 1.43, indicating a substantial deficit in relation physiotherapist-patient in a rehabilitation conducted by NHIF.

Respondents disagreed with the statement that the time during which physiotherapist worked with them a little (test group and control group 1.20 4.37). This result shows the high satisfaction of respondents in the test group on the duration of the contact patient physiotherapist and has a direct link with positive evaluations, receiving the claim that physiotherapist works most patient compared to other members of the MDE (4.87). This can be attributed to the work of physiotherapist in the rehabilitation phase of treatment for patients with arthrosis. It plays a leading role in implementing physiotherapeutic methods and tools in the postoperative period at home and is a specialist with the relevant knowledge and skills in this particular phase of rehabilitation in which NHIF exhausted its possibilities.

Table 5. Descriptive analysis of the questions (items) and the answers (scale)

		N	Mean	Std. Deviation	Std. Error
I was aware of the rehabilitation's nature procedures prior to their implementation	control group	30	1.40	.498	.091
	test group	30	4.80	.407	.074
	Total	60	3.10	1.773	.229
The physiotherapist answered all of my questions regarding my condition	control group	30	1.73	.828	.151
	test group	30	5.00	.000	.000
	Total	60	3.37	1.746	.225
I understand my condition much better after visiting a specialist in physical therapy	control group	30	1.43	.626	.114
	test group	30	4.93	.254	.046
	Total	60	3.18	1.827	.236
I don't think that the physiotherapist worked enough time with me	control group	30	4.37	.809	.148
	test group	30	1.20	.407	.074
	Total	60	2.78	1.718	.222
The physiotherapist cared about other related pain that I have	control group	30	1.83	.834	.152
	test group	30	4.90	.305	.056
	Total	60	3.37	1.667	.215
I feel better after each procedure performed by a physiotherapist	control group	30	2.33	.661	.121
	test group	30	5.00	.000	.000
	Total	60	3.67	1.422	.184
The physiotherapist worked mostly with me	control group	30	2.37	.890	.162
	test group	30	4.87	.434	.079
	Total	60	3.62	1.439	.186
I have more freedom in my daily activities after the completion of the rehabilitation	control group	30	2.43	.626	.114
	test group	30	4.93	.365	.067
	Total	60	3.68	1.359	.175
I invested a lot of my own financial resources for the execution of the procedures	control group	30	3.57	1.006	.184
	test group	30	4.77	.430	.079
	Total	60	4.17	.977	.126
If I'm in need, I would contact the same physiotherapist	control group	30	2.40	.563	.103
	test group	30	5.00	.000	.000
	Total	60	3.70	1.369	.177
I would recommend this physiotherapist to other patients	control group	30	2.30	.702	.128
	test group	30	5.00	.000	.000
	Total	60	3.65	1.448	.187
Today, after weighing the pros and cons, I feel satisfied with the rehabilitation services provided by the physiotherapist	control group	30	1.70	.750	.137
	test group	30	5.00	.000	.000
	Total	60	3.35	1.745	.225

The quality of our rehabilitation can be assessed by the responses in the field "physical activity". Patients say that they have more freedom in daily activities after the procedure performed by a physiotherapist and indicate a very high score (4.93), while the control group gives average estimates of 2.43. The other issue in this field is received in a similar way. Patients said that they would seek the same physiotherapist if they need rehabilitation in the future (test group - 5.00). Patient satisfaction by restoring functional mobility options to be accepted as one of the most reliable criteria for quality work. In this sense, satisfaction with the work of physiotherapist is appreciated by patients extremely high, but only within the model MDE providing IG amid very low levels of satisfaction with the quality of rehabilitation by the NHIF (control group - 2:43 to issue "8" and 2:40 to issue "10").

Patients in the test group felt much better after each procedure performed by a physiotherapist (5.00) and would recommend it to other patients who have the same need (5.00). The maximum ratings of satisfaction on a 5-point

scale of Lickert in "professionalism" applies only to models offering IG home from MDE. The control group, which has conducted rehabilitation at NHIS shows low levels of satisfaction with the professionalism of the physiotherapist working in terms of diagnostic and consultative centers, spa centers, etc. - 2.33 and 2.30 respectively.

Benefits / effectiveness of rehabilitation conducted by the MDE and in terms of the NHIF differ materially. On invested funds respondents show similar levels of satisfaction. Patients in the test group are themselves funded rehabilitation at home, using IG from MDE, but estimates of their satisfaction did not differ significantly from the control group - 4.77 for the test group and 3.57 for the control group. It is clear that the services offered by the NHIF also require additional funding by the insured. This funding is not significantly different (like monetary terms) of "self-financing" model providing IG in the patient's home. Patients in the test group showed an extremely high level of satisfaction with the ultimate benefit / efficiency provided by MDE IG at home compared to the control group selected to receive rehabilitation services in NHIF - average grade 5 for the test group and an average grade of 1.70 for the control group (question "12" comes from "benefits / efficiency").

CONCLUSIONS:

The physiotherapist has a leading role in implementing physiotherapeutic methods and tools in the postoperative period at home when NHIF's possibilities are depleted. The physiotherapist contributes greatly to the awareness of patients regarding the essence of the procedures, prognosis of the disease and the duration of their recovery. This personal attention to the patient placed in close for his environment - home and his relatives - allows for greater satisfaction. The respondents from the test group showed an extremely high level of satisfaction with the ultimate benefit / effectiveness of the services provided and they would recommend the physiotherapist to other patients who need rehabilitation at home.

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Address for correspondence:
Gergana Nenova,
Department of Orthopedics and Traumatology, University Hospital for Active Treatment "St. Marina" Varna " and Training and research sector of Rehabilitation, Medical Collåge - Varna, Medical University of Varna
1, Hristo Smirnenski Str., 9002 Varna, Bulgaria
e-mail: geri_nenova@yahoo.com